

Star Ranch Hazardous Fuels Reduction Plan

March 1, 2005

Prepared For

Placerville Fire District

Prepared by

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Introduction

Many of the forested areas of Star Ranch are overstocked with trees both large and small creating a potential for devastating crown fires and loss of homes. This overstocking creates several serious problems that get worse if these conditions are allowed to go through their natural succession. The trees create a continuous blanket of fuels from near the ground up to the crowns of the tallest trees. This allows rather harmless ground fires to become a raging crown fire that bring disastrous loss to the forest and often destroys homes in and adjacent to the forest.

Another condition this overstocking creates is stress on the trees as they compete for moisture and light. This stress can make them more susceptible to disease and often leads to epidemic conditions of insect attacks. The resulting dead trees can significantly increase the spread and intensity of wildfire. Many of the recent outbreaks of uncontrollable wildfire in our local forests have been a result of a combination of these factors. Reducing those stocking levels along with the other recommendations will reduce this risk and allow for ground based fire equipment to operate safely and increase the chances for successful suppression of wildfire within Star Ranch. It is not intended nor should it be taken that any plan will work under extreme fire weather conditions.

For this plan to be successful the majority of landowners in Star Ranch must be willing to sacrifice a few trees to help protect the homes and property of all concerned. Some

insurance companies will not insure homes in forested areas without adequate fire protection measures. The measures recommended in this plan should reduce significantly the potential losses due to wildfire thus increasing the chances for obtaining affordable fire insurance.

Lots and tracts, hereinafter called lots, were evaluated on the ground where access was permitted. No response lots were evaluated from the public roads or common areas. Some no response lot owners may respond favorably at a later date. A few lots were not evaluated because the landowners did not want their lots included. The exact locations and size of a few lots could not be determined and they have been omitted. If a lot was missed it can be evaluated at a later date.

Priorities for the use of grant monies were established based on proximity to Federal Land, potential for fire starts, and resistance to fire control. All lots fall into one of three possible categories. The purpose of the Federal Grant dictates that priority one lots be near or adjacent to public lands and be given priority. We have designated these lots and those along the main road priority one for funding. All other lots are priority two and three. Priority 2 lots were designated the next highest priority based on fuel loading. Priority 3 lots have the lowest priority due to light fuels and low resistance to fire control efforts. Funding may not be available for all the recommended work. It will depend a great deal on the number of landowners willing to do the work. Attached is map #3 indicating the priority areas.

Fire Hazard Fuel Reduction

Fuel reduction is accomplished by removing excess vegetation, which can be the ladder fuels for carrying the fire into the crowns of the remaining trees or contributing to fire intensity which hampers fire control. The recommended treatments can serve to reduce fire intensity and spread. An additional benefit is improvement in vigor and growth of the leave trees making them more resistant to insect infestation and disease. No thinning should occur between January 1 and July 15 unless the thinned material is chipped or burned immediately. The recommendation for thinning time is to reduce the threat of insect epidemics caused by population build-up in the slash. These insect epidemics often result in death of adjacent green trees.

Fuel Reduction

There are four recommended treatments:

1. Thinning trees larger than 8" diameter breast height (dbh)
2. Thinning trees under 8" dbh and thinning dense brush cover
3. Pruning the lower limbs to reduce the ladder fuels
4. Implementing the "Fire Wise" treatment recommended around homes

Thinning Trees Over 8" DBH

Thinning some of the trees 8' dbh and larger is recommended on most of the timbered lots. Enough large trees should be removed to allow the remaining trees access to full sunlight. This is best provided if their crowns do not touch one another. Tree thinning reduces the fuel continuity necessary to carry crown fires, reduces fire intensity, and increases vigor in the remaining trees. Thinning should remove the less vigorous smaller trees leaving the larger more healthy trees.

These trees contain logs that can be sold. A problem may be that some lots may not have sufficient volume to make a full load of logs. Possibly two or more owners might want to go together in order to sell their trees as sawlogs. Another option is to remove the trees for firewood. Any harvest is not recommended until after July 15 and prior to December 31. Also harvest during wet weather is to be avoided to prevent soil compaction. Removing these larger trees should be completed prior to thinning and pruning.

The thinning recommendations for trees larger than 8" dbh are as follows:

<u>DBH</u>	<u>Spacing Between Trees</u>
8" –10"	12 feet
10" plus	12-24 feet plus an additional 8 feet clear space around the tree crowns.

To help the homeowners make some estimate of volume on their lots, the thinning was broken down into categories. It usually takes approximately 5,000 board feet to make a truck load.

<u>Category</u>	<u>Approximate Volume (BD FT)</u>
Very Light	1000-2000
Light	2000-3000
Medium	3000-5000
Heavy	5000-7000

Thinning Trees Under 8"DBH and Brush Removal

Trees over 2 feet in height should be thinned to the following spacing:

<u>Tree Diameter DBH</u>	<u>Spacing</u>
1-4 inches	12 feet
4-8 inches	12 feet plus an additional 8 feet clear space around the tree crowns.

Dense stands of brush should be cut.

Pruning

Pruning should be done on all size trees to prevent a ground fire from moving into the crowns. Pruning can be done anytime of the year. The pruning recommendations are as follows:

<u>Tree Size DBH</u>	<u>Pruning Heights</u>
1-4 inches	Bottom 1/3 of crown
Over 4 inches	12' – 16' in height not to exceed 1/3 of crown

FireWise

Application of the FireWise Program and the creation of defensible space around the homes is recommended. The FireWise Program was developed from investigations of homes that survived wildfires throughout the United States. The objective of this program is to progressively maintain and reduce vegetation and flammable materials as you get closer to the structures. FireWise guidelines can be obtained from the Idaho Department of Lands District Office in Boise, The Village Marketplace in Placerville or the internet @www.Firewise.gov

Common Area

The recommendations for fuel reduction are the same as those for individual lots. In considering the treatment of trees larger than 8" dbh the common area presents more opportunity for commercial operations that would develop marketable logs. To further facilitate this process, a total of 10 cruise plots was established within overstocked stands scattered throughout the common area to determine a very rough estimate of volumes and acres. This is indeed only a rough estimate. The following table presents the estimated volumes.

Cruise Summary

Common Area Parcel Number	Acres	Estimated Volume (Board Feet)
Star Ranch # 5/7	18.9	54,000
Star Ranch # 1	52.0	150,000
Star Ranch # 3	6.2	4,000
Star Ranch # 2	51.1	30,000
Star Ranch # 4	<u>24.0</u>	<u>2,000</u>
	152.2	420,000 *

The estimated value of the logs could be in the range of \$100.00/M to \$125.00/M with value to Star Ranch of about \$42,000.00 to \$52,000.00.

* See Attached map #2

Fuel Reduction Time Estimates

Fuel reduction work is broken into five categories to facilitate cost estimation. Listed below is the estimate of the time one person would need to complete the needed work on one acre. This estimate is only for the thinning of trees under 8" dbh and pruning.

<u>Category</u>	<u>Hours/Acre</u>
Very Light	4
Light	8
Light to Medium	12
Medium	16
Medium to Heavy	20
Heavy	24

Aspen trees could be left as they are not much of a fire hazard

ATTACHMENTS

1. Map of Star Ranch
2. Map of Landowner Response and Common Area
3. Map of Priority Areas
4. Table of recommended treatments by lot

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